Newton Arms Co.

Incorporated

CHAS. NEWTON, Pres.

506 Mutual Life Building

BUFFALO, N. Y.

Manufacturers of and Dealers in

Modern High Power Rifles and Ammunition

Specialties

Newton High Power Rifles

Newton High Power Cartridges

All Calibers, Pages 17-25

Newton Patent Spitzer Bullets

Page 27

Newton Heat Insulated Bullets

Page 29

Reed Special Bullets

Page 31

EIGHTH EDITION

A NEW BOLT ACTION RIFLE

The Newton High Power

American Made from Butt Plate to Muzzle

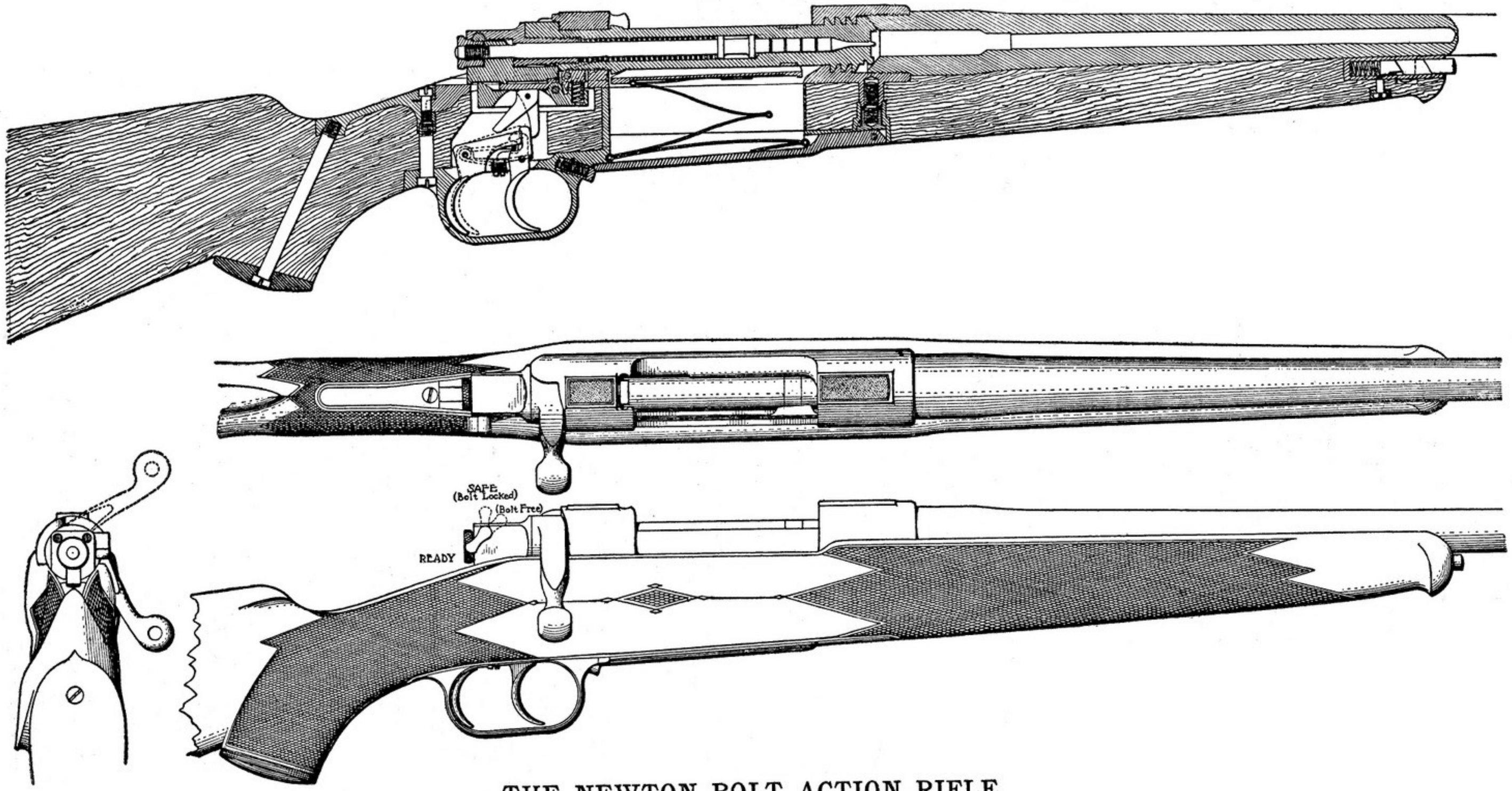
Uses the Famous NEWTON Series of High Power Cartridges. All Desirable Calibers from .22 to .35. Also .30 U. S. Army Springfield Cartridges. Velocities of 3000 ft. per sec. and over

$40.00 Each

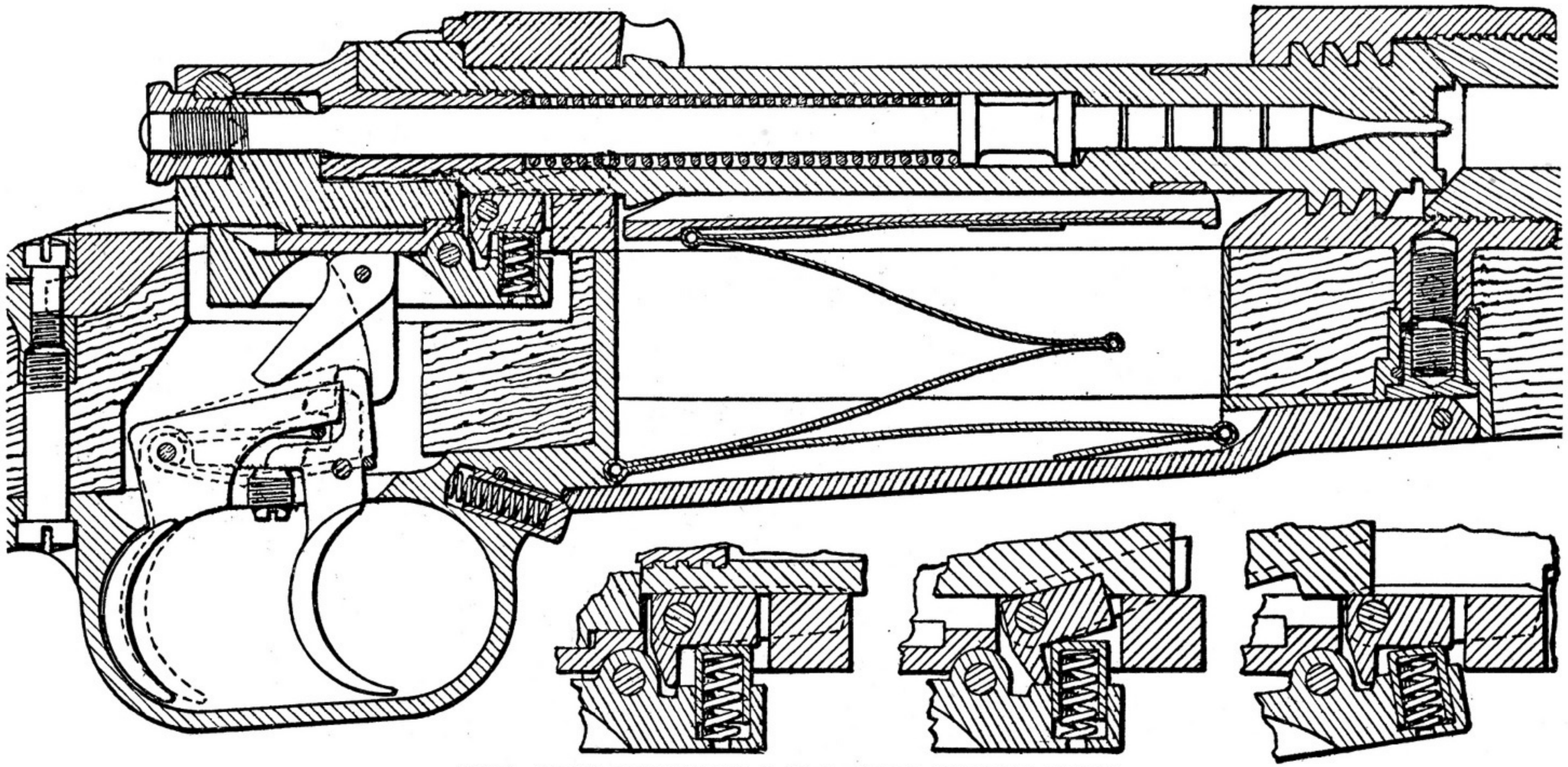
Ready for Delivery about April 1st, 1916

Mauser rifles cost $50.00 and upward each. Much of this charge is duty and transportation. American factories can make just as good rifles as German factories, and at far less price than that of the imported product. **We have decided to make them.**

Therefore we are making the necessary tools and preparing to manufacture, in large quantities, the NEWTON HIGH POWER RIFLE. Drawings and description of which will be found on the following pages.



THE NEWTON BOLT ACTION RIFLE.
Patents Pending.



THE NEW NEWTON BOLT STOP MECHANISM.
Patents Pending.

THE RIFLE.

The NEWTON HIGH POWER RIFLE is of the bolt action type, operated by rotating and drawing back the breechbolt, and constructed on the same principles as the world famous Mauser rifles, the mechanism of which forms the basis of our new action. However we have entirely rebuilt it, increasing its strength, lightness, convenience of operation and attractiveness of appearance. The only part remaining unchanged is the mainspring.

We are aware of the fact that this rifle is not a lever action will be a disappointment to some, as many who appreciate the wonderful ballistics of the Newton series of cartridges do not like, or think they do not like, a bolt action rifle. There are no patents of any importance upon any American type of rifle except the automatics, and we were at liberty to choose any principle from among any of these weapons for embodiment in our new rifle. Inasmuch as we are making this rifle complete, using entirely new tools specially made for it, it was as easy to make a lever as a bolt action and to embody in such lever action any principles now in use or any which we could design or devise. However, a long experience with the different models of lever action rifles and a consideration of the principles involved have satisfied us that it is absolutely impossible to produce a lever action rifle having the necessary rigidity of locking mechanism to successfully handle high power cartridges and yet operate freely. They call most emphatically for the rigid locking system of the bolt action rifle. During the past three years our Mr. Newton has fitted up a number of model 1895 Winchester rifles to use the .256 cartridge. The rifle is strong enough and they shoot well, but there is so much spring in the locking mechanism that it is impracticable to use reloaded cartridges, as this spring permits the shell to stretch unduly and it fits too closely when attempted to be used again. We appreciate that the lever action is quicker in operation than the bolt action; also that it is very difficult for lefthanded shooters to use a bolt action. Therefore it was with regret that we were forced to the conclusion that any rifle which handles modern ammunition must be of the bolt action type.

Our regret on this point, however, is much less keen when we realize that the principal objection to the bolt action arises from lack of familiarity with its use. Our Mr. Newton took a somewhat prominent part in the recent magazine controversy known as the "Lever vs. Bolt" or "Bolt Action Fight." He studied the matter thoroughly and as a result he has entirely abandoned the lever action type of rifles. In fact, while we appreciate the prejudice in this country against the bolt action rifle, we believe much of it arises from lack of familiarity with the weapon, since we have yet to learn of a man who has used one to any considerable extent and thereafter returned to the lever action.

THE ACTION.

The action of the new rifle contains the best points of all the bolt action rifles on the market, with improvements of our own.

The Bolthead is on the interrupted screw plan and has more than twice the strength of the Mauser or Springfield bolts, yet does not sacrifice the powerful camming action of the Mauser and Springfield in the extraction of sticking shells.

The Bolt Stop consists of a hardened steel block mounted on a pin in the lower side of the receiver to the rear of the magazine. The upper end of the sear spring rests against its lower side and when the bolt is drawn back the spring thrusts the front end of this block up and it engages a notch in the lower side of the bolt, thus checking its backward movement. When it is desired to withdraw the bolt completely, press the front trigger, which depresses the sear, causing the forward portion to rise up and engage a lug on the lower side of the bolt stop and thus prevent the bolt stop rising. The bolt can then be drawn entirely out of the receiver.

The Ejector is a steel blade, shown by dotted line in the drawing, lying to the left of the bolt stop. It is pivoted upon the same pin as the bolt stop and rises and falls with the bolt stop. It projects forward through a slot in the receiver and in the front end of the bolt, past the face of the bolt, and ejects the shell to the right.

The Bolt Sleeve is of entirely new design. It carries out symmetrically the outlines of the receiver and is lighter than even the Springfield sleeve. Its construction is such that when the rifle is ready to fire the bolt handle rotates freely. When the rifle is carried at "safe," and in position to be most easily shifted to "ready," **the bolt handle is locked against rotation,** and those annoying misfires experienced at times when the ordinary safety is carried in the vertical position, due to the bolt handle having become slightly raised without the shooter's knowledge, are avoided. By pushing the safety still farther over the bolt handle is freed and will rotate with the firing pin locked. All who have hunted with our present bolt action rifles will appreciate this improvement. Further, by placing the safety in a certain position it may be withdrawn, and the entire sleeve mechanism comes apart until no one part is fast to another, without the use of tools of any kind. Those who have attempted to dismount a Springfield sleeve will appreciate this.

It is joined to the bolt by a left-hand thread and when the bolt handle is turned down it is drawn close up to the rear end of the bolt, making a close joint instead of being thrust back one quarter of the thread as when a right-hand thread is used.

The Safety is a great improvement over those in use. Instead of rotating from left to right and vice versa, with its shaft lying lengthwise of the rifle, it is placed upon the right side of the sleeve, at its rear upper corner, and rotates from rear to front and vice versa, the shaft running directly through the sleeve from right to left. In firing position it is turned to the rear and forty-five degrees below the horizontal. In "safe" position it is vertical above the shaft, and needs but to be caught with the thumb and

drawn to the rear, when it falls into the firing position, working as easily, conveniently and noiselessly as the safety on a hammerless shotgun. When in the vertical position it locks the firing pin and also locks the bolt handle against rotation. Pushed still farther forward, to 45 degrees in front of the perpendicular, it permits the bolt handle to rotate but holds the firing pin locked. Pushed still farther forward it again locks the bolt handle and firing pin and lies close against the side of the sleeve in suitable position for carrying in a scabbard. It can be returned to firing position either by rotating it back, reversing the movement by which it was put on, or by completing the rotation past the lower side of the sleeve.

The Safety Lugs are two—One on the lower side of the bolt, in line with the lower locking lug and turning down in front of the bottom of the receiver at the mouth of the magazine, and the other on the opposite side of the bolt turning up against the front face of the receiver bridge in the clipway. This latter lug serves to eject the empty clip from the clipway. These lugs, being in line with the front locking lugs, are withdrawn through the lug races and avoid the elevated bridge on the Springfield receiver.

The Receiver Ring has a flat surface on the top, running its entire length and about 9-16 inches wide. **The Rear Bridge** has a similar surface, exactly in line, to correspond. These surfaces are matted to prevent the reflection of light, and make splendid surfaces for the attachment of telescope sight mounts. When not so used they give much the same effect in sighting as a raised matted rib on a barrel. The front receiver ring is also reinforced at the point of greatest strain by the extra metal in the corners.

The Firing Pin is a combination of the best qualities of many. It is of one piece throughout, like the Mauser, thus avoiding the frequent breaks occurring with the Springfield at the point where the striker is attached. However its profile at the front end is like the Springfield, in that it fits the bolt opening closely for a distance and has rings about it to prevent the escape of gases from a punctured primer to the rear. In its manner of assembling it resembles that of the Remington-Lee high power rifle, in that it is assembled from the point and the assembling completed with a nut which may be made to carry a peep sight base. This permits the attachment and removal of a peep sight from the end of the firing pin by merely changing the nuts used. Those who have paid $10.00 to have a Lyman peep sight welded to the firing pin of a Springfield rifle will appreciate this point.

The Magazine Floor Plate is of the hinged type, being attached at its forward end to the front receiver screw nut. At the rear end it is secured by an entirely new design of magazine floor plate catch. The catch bolt is round and ¼-inch in diameter, flattened on the upper side, and its action is easily seen from the drawing. The magazine spring is anchored in the magazine walls instead of to the magazine floor plate, thus when the floor plate drops down for use in dismounting the rifle it is free from the magazine spring. To remove the magazine spring and follower, press upward under either end of the spring and it loosens and comes out.

The Magazine Throat is entirely remodeled. In the Springfield rifle, and to a greater degree in the Mauser, a cartridge fed up from the magazine is thrown diagonally across the receiver, its point striking the rear end of the barrel on the side opposite to that in which it lay in the magazine. This did no harm so long as metal cased bullets were used, but when using soft point bullets it bruised the exposed lead at the points, thus deforming the cartridge. The Springfield has the rear end of the barrel coned to shunt the cartridges into the chamber, so the difficulty was limited to a deformation. The Mauser has a barrel square at the rear end, butting back against a diaphragm ring in the receiver. This ring is large enough to admit the body of the bolt, therefore exposed considerable of the barrel base. The cartridges strike this sharp corner of the chamber which shaves off considerable pieces of lead, which sometimes become lodged in the neck of the chamber, leading to excessive pressures in the cartridges used because of their wedging of the bullets into the chamber. Sometimes these lead shavings get into the bore of the rifle, where they are packed down against the bore like fouling, destroying accuracy completely until removed. Several Mausers have come under our observation which were so inaccurate as to be absolutely useless, and a removal of this lead has restored them to their normal accuracy.

To meet this condition we have so modified our magazine throat that before the bullet point reaches the rear end of the chamber the cartridge is straightened out and lies exactly parallel with the bore and is inserted into the chamber without the bullet having an opportunity to touch the barrel at all.

The Double Set Triggers are an important feature of this rifle. Many do not care for set triggers, and for these we furnish a single trigger; but we feel that in case the full value of set triggers were realized they would be universally used.

All set triggers now in use can be used as single triggers by merely omitting to set the rear trigger. The front trigger, used alone, will give a pulloff similar to that of a single trigger. However, those set triggers heretofore in use have not, when used as a single trigger, been capable of giving as clean and quick a release as can be obtained from a single trigger. This defect we have located and overcome. Likewise we have overcome the tendency of the double set trigger to break in use, and our design is just as strong, as certain, as durable and as sensitive in use, even when used as a single trigger, as is the trigger of the Springfield or Mauser.

The problem with the double set trigger lies in the fact that it must permit sufficient movement of the front trigger to the rear to release the rear trigger, which then flies up and strikes the knockoff attached to the sear, thus firing the arm. The rear trigger then comes to rest at a point considerably higher than it occupied when set and held by the bearing on the front trigger. To fire it as a single trigger the front trigger must be drawn back beyond the point where it released the set trigger, and until

it bears either against the rear trigger, then in its higher position, or direct upon the knockoff itself. Then it must come back enough farther to press the lower end of the knockoff up sufficiently to release the sear.

The traditional method of accomplishing this purpose is to form the two triggers with the upper portions in the form of thin blades which work side by side, each being approximately one-half the thickness of the complete trigger. When used as a single trigger it gives a long, hard, crawling pull which upsets the nerves of many.

Our triggers are at all points, except the finger piece projecting into the guard, which is wider, of a uniform thickness of ⅛ inch. They are mounted exactly in line, the rear trigger to the rear of and above the front trigger, except at the front end where the front trigger rises up and engages the rear when it is set. Thus we have the advantages of a drag pull without its disadvantages, and the advantages of a set trigger likewise without its disadvantages.

The dotted lines in the drawing show the position of the rear trigger when not set. There is a front knockoff pivoted upon the same pin as the rear knockoff and it bears against the forward part of the upper portion of the front trigger. By this means all lost motion of the front trigger is taken up and as soon as the notch in the front trigger is sufficiently forward to clear the bite of the rear trigger it bears directly upon this knockoff and fires the piece.

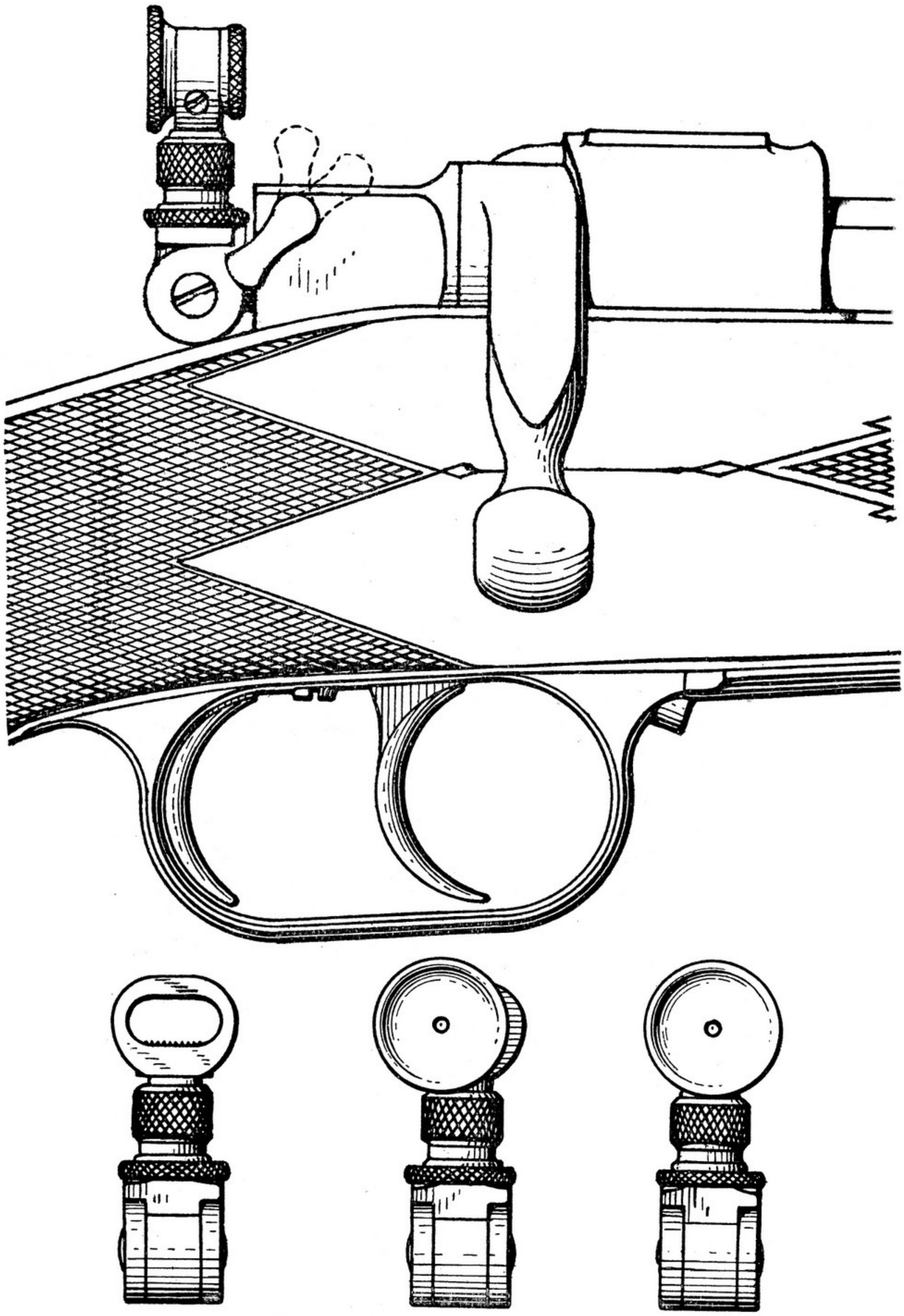
The point of contact where the triggers engage, when set, being a full ⅛ inch wide it can be made very shallow and a pull of most extreme lightness be obtained. We furnish these set triggers at no extra charge and as a standard unless otherwise ordered. We earnestly recommend them to the rifleman who wishes to obtain the extreme accuracy of which the rifle is capable.

The Set Trigger Springs are ordinarily two, both flat springs, put in with screws, one very heavy and powerful and the other very light. The heavy one is likely to break because of its stiffness, and the light one because of its lightness. We use a single spring of piano wire, put in place by the fingers, without screws or pins, and which will last a lifetime. No spring material ever produced equals piano wire in durability or reliability.

The Bolt Handle is of an improved design, permitting the use of a telescope sight mounted above the center of the receiver and just as close to the receiver as may be desired. It is far more graceful in appearance than those of the Springfield and Mauser, which form an elbow directly above the center line of the receiver.

The rear view of the rifle shown shows it in its normal position, and also by the dotted line, its highest position in use.

The Cam Movement for Cocking has a much larger radius than in the Springfield or Mauser and requires far less force to raise the bolt handle than either of those arms.



THE NEWTON PEEP SIGHT.
Patents Pending.

THE REAR PEEP SIGHT attached to the rear end of the firing pin is of our own design. The cuts show it as attached to the rifle and also a rear view. In the central figure the eye-cup is shown in its extreme left-hand position, the right-hand cut in its central position, while the left-hand cut shows the stem with the eye-cup removed.

The principle of the windage movement of this sight is entirely new. The upper portion of the stem bears a horizontal slot just large enough for the hub or smaller diameter of the eye-cup to project through. The lower side of this slot has grooves forming a rack, the grooves in the illustration being formed by inserting a screw, which, once inserted is never changed. The hub of the eye-cup has corresponding grooves formed lengthwise and just fills the slot in the stem. By rotating the eye-cup to right or left the pinion formed by its hub rolls along the rack formed by the exposed upper edge of the screw and not only gives a windage adjustment, but, due to the much larger movement of the outer portion of the eye-cup, gives a fine micrometer effect, making the closest adjustments possible. The hub of the eye-cup, projecting through the slot in the stem, is caught and held at its front end by a jam nut which is loosened when an adjustment is to be made, and tightened when finished. These details of construction, while illustrating the principle involved, are obsolete, as we are substituting teeth broached in the lower side of the slot, in place of the exposed threads on the screw to form the rack, and we are forming the hub in one piece with the front portion of the hood, and using the eye-piece proper as a jam nut. This enables us to reduce the thickness from front to rear at the eye-cup very materially. Drawings are not as yet out showing this change. Elevation is attained by rotating a knurled sleeve locked by a jam nut.

All receiver sights are concededly too far from the eye to permit the full enjoyment of the benefits of the orthoptic system of sighting. This sight is exactly the right distance away to give clear definition. This type of sight is preferred above all others by Lieut. Whelen and other leading marksmen, who have had them welded to the firing pin heads of their Springfields, and do without the windage adjustment.

Some have criticized the mounting of a sight upon the firing pin because of the slight rotary movement which the firing pin permits, thus slightly affecting the lateral adjustment of the sights, but this we have entirely done away with by a device which we have designed, and the sight is always held in exactly the same position.

The Lyman Receiver Rear Sight can also be used as on the Springfield rifle, and can be applied to either right or left side of the rifle.

The Receiver has been well called a ''stream line'' receiver. It is entirely free from projections above the stock except the two flat matted surfaces on top of the rear bridge and receiver ring. These form a good place for the attachment of telescope sight blocks Because of the type of bolt lock and ejector used it is unnecessary to hang ugly projections for these

parts on the outside of the receiver. By a new form of construction we retain full strength of the right-hand side of the receiver ring without the excrescence found there in Springfield rifles. Our gas vent, not shown in the drawing, is to the left instead of to the right, a position where it has many times the efficiency possessed when on the right-hand side. This comes in play only when the cartridge head bursts, and as the cartridge head is supported top and bottom and on the right-hand side, it always bursts to the left and that is where the vent to permit the gases to escape should logically be located.

The Magazine Follower is of a new type, pronouncedly lighter than that on the Springfield and Mauser. The drawing does not show the difference in construction.

The Grip of the Stock is re-enforced by a new device which greatly strengthens it against breakage when the rifle is used as an aid to mountain climbing, or is accidentally dropped upon rock or other hard substances, striking on its toe. This in response to a great demand from hunters of big game who have put their rifles to the "acid test" of hard service where the big game grows.

The Forearm is firmly bound to the barrel at its forward end by a fastening giving the same effect as the Deeley & Edge forearm snap used on the best quality of shotguns, yet does not bind as the barrel heats and expands. The construction of the snap is different, but it is much lighter and its efficiency is improved. This enables us to fasten a sling swivel to the forearm without drawing the latter away from the barrel when firing with sling, thus affecting the support of the barrel by the forearm. At the same time it does not interfere with the ease of taking down the rifle, as where the sling swivel is attached to the forearm screw which binds the barrel to the stock.

THE STOCK.

Is of the finest quality of American walnut, either plain or fancy grained. It is of a new model, yet not exactly new. In brief it is a combination of the best qualities of the famous de luxe stocks furnished by Adolph and Wundhammer, together with some improvements over both.

It has a pistol grip on the Wundhammer lines, with steel cap, checked grip and forearm, Adolph form butt and forearm tip, steel buttplate, cheekpiece or not as desired, oil finish, and is as fine a job of a first-class rifle stock as we can put up. It is firmly attached, at the fore-end, to a lug under the barrel, and can be furnished with or without sling swivels as desired.

The stock, being one piece of wood from buttplate to forearm tip, absorbs the vibration and stiffens the arm past the point where the barrel is screwed into the receiver, thus giving far better shooting than can be had from any rifle made with a two piece stock. In fact it is as easy to make four inch groups at 200 yards with a rifle having a one piece stock as to make eight inch groups with any rifle made with the two piece stock and using the same ammunition and an equally well made barrel. "It is all in the vibration."

THE BARREL.

The barrels are made from the same grade of steel as the army rifle, which has proven to be the best obtainable for the purpose; otherwise the United States Government would not use it. It will stand 15,000 rounds of army ammunition before becoming inaccurate, and is the best for this purpose in use.

The barrels have a shoulder next the receiver, then drop down to a diameter of one inch, and are a straight taper from this point to the muzzle. They have a raised block for the foresight, enabling us to obtain a proper sight line without making the foresight unduly high or liable to injury.

THE TAKE DOWN FEATURE.

The Takedown is very strong and does not weaken the rifle at the joint. In operating it press the end of the magazine floor plate catch and the magazine floor plate springs down. Three turns of the magazine floor plate, used as a lever in the front receiver screw nut in which it is pivoted, unscrews the nut from the front receiver screw. Then press the forearm snap at the front end of the forearm and the barrel with the receiver attached tips upward and off the stock, unhooking at the upper end of the rear receiver screw. To take up wear on the front receiver screw the threads where it screws into the receiver are somwhat coarser than those where the nut screws on the lower end. By loosening the binding screw and turning the front receiver screw slightly we tighten it the difference between the pitches of the two threads, giving the finest of adjustments. We take up wear in the rear hook by tightening the upper screw.

This device is such that, while working almost instantaneously, it leaves the rifle just as rigid when assembled as an ordinary Mauser which does not take down, since the stock is not cut through. As has been stated, no rifle with a two-piece stock can make as good groups as can one with a one-piece stock, having the same quality of barrel and using the same ammunition. This is why the Springfield and other military rifles are far more accurate than the English Lee-Enfield or the sporting rifles made in America. The one-piece stock muffles the vibration at the weakest spot, where the barrel joins the receiver. However, with those takedown rifles with which the barrel unscrews from the receiver, the necessary looseness of fit, allows far more vibration at this point than if the barrel were tightly screwed in; therefore the improvement in accuracy due to the rigid weapon with the one-piece stock is all the more noticeable.

Concerning the degree of accuracy to be expected from a takedown rifle, the barrel of which separates from the receiver, Lieut. Townsend Whelen, one of the greatest American rifle shots and students of rifles and ammunition, states as follows:

"Joints in the rifle have more effect on the accuracy of the rifle than one would suppose. I know from recent experiments that the takedown feature on the ———————— single shot rifle, although perhaps the strongest

takedown now made, is enough to have considerable effect on the accuracy, not on account of altering the line of sight, but because it affects the flip, and the flip is not constant. Its a fact that on my 25-20 ———————— single shot takedown rifle I cannot tell when I am shooting one charge and am about to change to a lighter or stiffer charge, whether to raise or lower the elevation. Sometimes it will work one way and sometimes another direction.''

RELIABILITY.

While the American market is surfeited with cartridges developing a velocity of from 2000 f. s. to 2200 f. s., there are singularly few American sporting cartridges developing velocities anywhere near the 3000 f. s. mark. Some of those which do approach this velocity have failed to give satisfaction in all cases owing to the bullet jackets splitting when firing rapidly. In some rifles, after the first five or six shots fired sufficiently rapidly to heat the barrel, the shots become unaccountable, missing the target entirely. Usually the first trouble noticed is a low shot to the right, followed at times by another still farther away, after which the point at which the bullets strike cannot be located. This continues until the barrel is permitted to become entirely cool, after which it will again shoot accurately until again warmed up.

The cause of this trouble is the improper construction of the rifle, and cartridge. In a properly constructed rifle these high velocity cartridges will do good work regardless of the temperature of the barrel, as we have repeatedly proven, and no trouble of this kind will be encountered in using any of our rifles and cartridges, we having located and avoided the cause. The question of velocity has no bearing upon it save as it is necessary, when obtaining the velocity, to adapt the rifle and bullet to meet the requirements. This we have done as will be seen under the description of the bullets.

Many think that obtaining these velocities involves excessive pressures, imposing dangerous strains on the rifle. Such is not the case. The Ross .280 has been on the market for several years and there can be no question but that it actually produces a muzzle velocity of 3050 feet per second without resort to excessive pressures. The Savage .22 high power also produces 2800 f. s., without undue pressures, while the 250-3000 Savage develops 3000 f. s. What can be done in the line of velocity in a .280 caliber can also be done in any other caliber. This is what we have done. The pressures of none of these cartridges run above those of the match ammunition used in the army Springfield rifle; it is unnecessary to go above those pressures when using bullets of the same sectional density and consequent carrying power as the Ross, to obtain the velocities mentioned.

Therefore we feel that in presenting for the consideration of American sportsmen the Newton high power rifle we are submitting the last word not only in ammunition but in hand functioned mechanisms, as we have endeavored to embody in both rifle and ammunition the latest developments in the science of rifle shooting.

INTERCHANGEABILITY OF PARTS.

These rifles will be built strictly on the interchangeable part system, by virtue of which a man having one of these rifles and wishing to replace any part, whether he be located in Buffalo or China, may send and receive the part by mail with absolute assurance that it will fit when it arrives. This feature of interchangeability of parts involves the construction of thousands of dollars worth of jigs and gauges by which every part is checked and to which it must conform before it can pass our inspector. The manufacture of the tools, jigs and gauges for the production of this rifle requires considerable time. Therefore we cannot insure delivery of the rifles before April 1st, 1916, although we trust to have them prior to that time. We appreciate that this is long in the future, but the production of the tools, etc., is a stupendous undertaking.

Feeling confident that the day of the 2000 foot second cartridge is past and that the American sportsman is entitled to the best there is in the line of sporting equipment, we have produced this line of cartridges and this rifle and we respectfully solicit your investigation.

DIMENSIONS.

The rifle will be built as a standard with 14 inch stock, drop of 1¾ inch at comb, 2⅞ inch at heel and will weigh in .22 Newton, .256 Newton, .280 Newton and .30 U. S. Government, model 1906, calibers about 7 pounds. In .30 Newton, .33 Newton and .35 Newton it will weigh about 7¾ to 8 pounds. The barrels will be 24 inches in length.

PRICES.

The prices for our rifles are higher than we had expected to make them. The pending European War has produced almost revolutionary conditions in the gunmaking business in this country. Machinery and materials used in riflemaking have not only advanced very much in price but they are almost impossible to obtain at any price. Deliveries are about six months behind in most cases. Millions of military rifles have been contracted for in this country and contracts for millions more are now in process of negotiation. The Spanish model Mauser, such as were captured in Cuba in 1898, with gum or maple stocks, are selling by millions at about $27.50 each. The result upon the gunmaking industry is readily seen. Therefore, while we had hoped to place our rifles before the American sportsmen at about $30.00 to $35.00 we have been compelled to raise the price. They will be furnished to retail as follows:

Newton High Power Rifles, each	$40.00
Cheek Piece extra	2.50
Sling Swivels extra	1.00
Checked Butt Plate with Trap extra	2.50
Peep Sight on Firing Pin extra	5.00
Fancy Walnut Stocks extra according to grade	$5.00 to $20.00

CARTRIDGES

.22 Newton and .256 Newton	$ 6.00 per 100
.30 Newton	7.50 per 100
.33 Newton and .35 Newton	10.00 per 100

BULLETS

.22 Newton and .256 Newton	$1.35 per 100
.30 Newton, .33 Newton and .35 Newton	1.50 per 100

PRIMED SHELLS

.22 Newton and .256 Newton	$2.00 per 100
.30 Newton	2.50 per 100
.33 Newton and .35 Newton	3.00 per 100

The cartridge making industry has suffered the same severe tax upon its resources as has the riflemaking business, and this condition is reflected in the above quotations. However we trust the war will soon be over, and when it is these prices will be much reduced.

DELIVERIES.

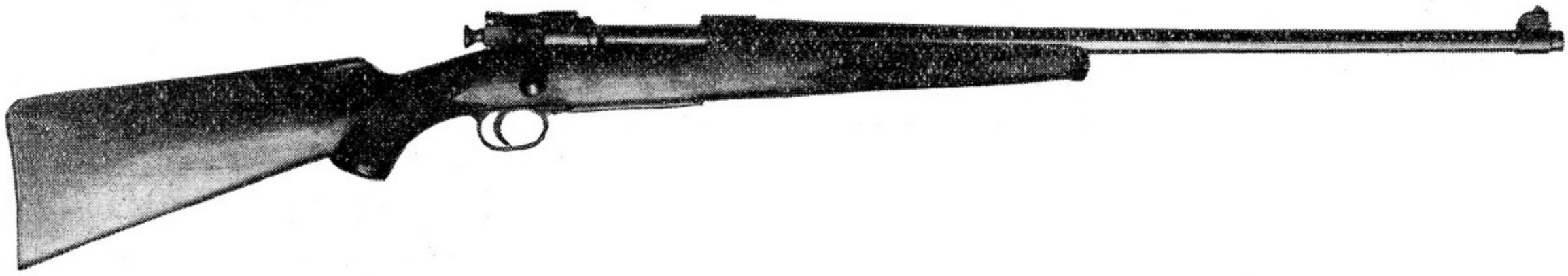
It was our intention to have these rifles made under contract, to our specifications, by some firm then engaged in the manufacture of guns or rifles. We began negotiations with this end in view about August 15th, 1914. We were unable to obtain either barrels or barrel making machinery until December, 1914, when we placed a contract for our barrels with one of the oldest rifle making firms in the United States. We then set about placing the contract for the actions. We let the contract once and the factory threw it up to go into the military rifle business. Many others agreed to accept it, but after investigation of the processes of manufacture decided to go into making rifles for the war. Last spring we decided that since all the factories were war crazy we would manufacture them ourselves. Accordingly we placed orders for machinery and materials, hired skilled men from our great arms factories to supervise the work and began making the tools and fixtures to produce rifles according to the latest modern methods. This has all taken time, and it has taken more time to wait for those machines and that steel ordered last spring. The machines are now in place, the steel is here or due in the near future, and in all human probability finished rifles will begin issuing from the factory about April 1st, 1916. All orders will be filled in the order in which they are received if desired. Many orders now placed do not require delivery until next summer, and these will be deferred until required, to accommodate the early demand from individuals requiring but one rifle each. We wish to accommodate all and will do our best to so distribute our product that, while no large orders will be held up beyond the date required, the small orders may be filled as speedily as possible.

All inquiries received are placed on file, and when the first rifles are ready for delivery a complete ILLUSTRATED CATALOGUE, giving full details, cuts, descriptions and sketches of parts, etc., will be mailed to each inquirer and furnished the trade for distribution.

.256 Newton Sporting Springfield

New Barrels and Stocks to fit New Springfield Army Rifle Actions

Make your Springfield into a .256 Newton



.256 Barrels to fit Springfield actions.....$12.50 each

Sporting Stocks for Springfield rifles.....$12.50 each

THE EUROPEAN WAR UPSET OUR CALCULATIONS. We were obtaining our .256 Newton Mauser Rifles in Oberndorf, Suhl, Berlin and Hamburg. The present war shuts off that supply. Our available stock was thus limited to one shipment, shipped just before the outbreak of hostilities. The question arose, "How shall we avoid disappointing our friends until our new rifle is ready?" We solved it in the SPORTING MODEL STOCK FOR NEW SPRINGFIELD ACTIONS, used with .256 NEWTON BARRELS FOR NEW SPRINGFIELD ACTIONS.

STOCK—Finest quality American Walnut. Pistol grip with cap. Grip and fore-end checked. Steel butt plate checked. Trap in butt if desired. Form of stock similar to cut above. Cheek piece if desired.

This stock is completely finished and ready to screw on the action of the New Springfield Rifle when equipped with the .256 barrel. Anyone with a screwdriver can do the job.

Price of stock complete.....$12.50

BARRELS—Of the same grade and quality of steel as used by the Ordnance Department in making the New Springfield Rifle. Length 24 inches. Military foresight base. Finely blued and finished and adapted to the .256 or .30 caliber Newton High Power cartridge. Ready to screw into the New Springfield action.

The taste of our customers in sights differs so widely that we have left this point open, that we may attach such sights as may be desired. ALL SIGHTS COST EXTRA according to kind desired.

Price of barrels ready to screw into action, without sight, Twelve Dollars and fifty cents ($12.50).

THOSE WHO HAVE SPRINGFIELD RIFLES, MODEL 1903, can, by purchasing a stock and a barrel, transform it into a .256 or .30 caliber Newton High Power, sporting model, by purchasing and attaching the new stock and

barrel at an expense of but Twenty-five ($25.00) Dollars and the sights. They can retain the original barrel and stock and thus change from Sporting .256 or .30 back to .30 cal. Military for target work in a few minutes. Thus you have two complete rifles, one always adapted to the work in hand. By retaining the military parts you may still take advantage of the cheap ammunition furnished by the Government to the rifle clubs affiliated with the N. R. A. and at the same time have the finest sporting rifle in the world. For the .30 Newton cartridge a new bolt is necessary.

THE NEWTON HIGH POWER CARTRIDGES

Are a series of cartridges developed by Chas. Newton of Buffalo, N. Y., during the past few years, and combining to a degree not attained elsewhere those most desirable qualities, high velocity, flat trajectory, great killing power, great accuracy and light recoil.

In the winter of 1905-6 Mr. Newton developed the first .22 high power rifle, intending it for use on woodchuck, for which purpose he desired a rifle of high velocity, flat trajectory, great accuracy and great shocking power, yet combined with immunity from danger from glancing bullets and of not too great power. He succeeded beyond his most sanguine expectations, and discovered that he not only had a splendid rifle for the purposes desired but one of great efficiency for larger game up to and including deer. Many who saw its work in the field had rifles made like it, but the general public derided it as a game cartridge until, in the fall of 1911, the Savage Arms Co., became interested in it and put it on the market for their featherweight rifle, since which time, as the ''.22 Savage High Power'' or ''The Imp,'' as it is better known, it became the most popular rifle and cartridge ever placed upon the American market, and its annual toll of the largest of American game is a most heavy one.

In 1912 Mr. Newton designed the cartridge just placed upon the market by the Savage Arms Co. as the .250-3000 Savage, with the exception of the bullet. He wished to use a 100 grain bullet, at 2800 f. s. velocity, since it would have had as much energy at the muzzle and would retain it much better; but in this he was overruled by the factory engineer. This shell was designed to, and does, give all the powder room which the original action will accommodate—and the Company refused to rebuild the action. Therefore the ballistic efficiency of the cartridge was held down to the limits of the model 1899 Savage action.

Mr. Newton considered these cartridges, while wonderfully efficient upon game up to and including deer, and very successful upon the largest game, yet of inadequate power to be classed as a big game rifle, or even as an ''all around rifle,'' therefore set himself the task of designing a better. He recognized that the high velocity of the .22 Savage was the key to its wonderful efficiency, and that any further improvement in cartridges must involve the same principle which had been so thoroughly and startlingly justi-

fied. Therefore in designing his later cartridges he applied the same principles which had made the .22 Savage so successful, carrying it still further, and with correspondingly better results.

Recognizing that the 2800 f. s. velocity of the .22 Savage was below the practical velocity attainable, and that the short, light bullet of that cartridge lost velocity very rapidly during flight, owing to the resistance of the atmosphere, he used a cartridge shell permitting the use of sufficient powder to increase the velocity to 3000 f. s. and 3100 f. s., and used a longer bullet, heavier in proportion to its caliber, and with a spitzer point, thus retaining its velocity, and consequently its flatness of trajectory and great killing power, to far greater ranges.

A careful consideration of the problems involved in our high power cartridges has indicated the standard of bullet weight, used in the Ross copper tube ammunition and followed in the series hereinafter described, and which is approximately 2300 grains per square inch of area of cross section, may not be the ideal weight. A heavier bullet at a somewhat lower velocity will give more energy at the muzzle for a given powder pressure, and through its retaining its velocity better will give increasingly better energies at the longer ranges. This difference becomes more and more marked as the barrel is shortened below the standard testing length of 30 inches, since with the lower velocity the powder has more time to burn in the barrel. The only element affected is the trajectory, and the influence upon this is but slight. As an example the .256 Newton, loaded with 140 grain bullet at 3000 f. s. velocity has 168 foot pounds more energy at the muzzle than has the 123 grain bullet at 3100 f. s. At 300 yards it has 223 foot pounds more. The greatest difference in trajectory height at any range is less than ½ inch, and beyond 500 yards the heavier bullet is the flatter in trajectory.

Therefore it is entirely probable that at the close of some pending experiments we may furnish ammunition with heavier bullets at slightly less velocity. In such case the .22 caliber bullet will weigh about 100 grains; the .256 bullet about 140 grains; the .30 caliber bullet about 185 grains. This has not as yet been determined, but in case we find decidedly greater energy at all ranges does not sacrifice more than a fraction of an inch of trajectory at any range we may feel that the change is justified. Likewise it is entirely possible that we may furnish ammunition with both weights of bullet.

The following description of the different cartridges is in the order of their size, not of their development, and is based upon the bullet weights at present used.

The .22 Newton Cartridge

Is of .22 caliber, using a 90 grain bullet at a muzzle velocity of 3100 foot seconds, and with a muzzle energy of 1926 foot pounds. This is 60

percent more energy than the .22 Savage high power, and over 10 percent more than the .250-3000 Savage. It is almost the same as the 30-40 or "Krag" cartridge. However the game is not killed at the muzzle and the true test is its power at the point where the game stands. At 200 yards it has more than twice the power of the .22 Savage and 36 percent more than the .250 Savage. At 300 yards it has almost the same power as both .22 Savage and .250-3000 Savage together, and has almost the same power as the .405 Winchester. This superiority at game shooting ranges is due to its longer, heavier, sharper pointed bullet which overcomes the air resistance more readily. Think of a .22 caliber rifle of power equal to the .405 Winchester at 300 yards and more powerful beyond that range. This is the last cartridge developed and can be furnished only in the new rifles now in course of manufacture. Its bullet will penetrate far more deeply than the present .22 high power, its trajectory is much flatter and its killing power far greater at all ranges; it is ample for deer and efficient against all our heavier game.

The .256 Newton Cartridge

Is the "all around cartridge" of the lot. Its velocity is 3100 f. s., with 123 grain bullet, and its energy 2632 foot pounds. Its energy is 200 foot pounds or 8 per cent more than the Springfield, model 1906, at the muzzle. At 200 yards it has 300 foot pounds or 13 percent more energy and is decidedly more powerful than the .405 Winchester. At 300 yards it has 300 foot pounds or 23 percent more energy; and the Springfield is considered our most powerful big game cartridge. Therefore we see that as a BIG GAME RIFLE the .256 NEWTON is adequate for our largest game. The soft point bullets used do not fly in pieces upon impact, but penetrate deeply as well as mushroom promptly. It penetrates six inches of seasoned rock maple when using the 123 grain soft point bullet.

AS A WOODCHUCK RIFLE, it is unexcelled, as its very flat trajectory (2 inches at 200 yards) obviates the danger of missing on the long shots through errors in estimating distances; its tremendous shocking power paralyzes the game on the spot, preventing its escaping into the hole to die; its velocity causes the bullet to be dashed in pieces if it strikes the earth, at whatever angle, thus preventing danger from glancing bullets; and its superb accuracy makes it the ideal rifle for this purpose. Likewise one may practice at this most fascinating sport during the summer months with the same rifle used for the largest game, thus acquiring skill in its use which will be of great service later in the season when the deer or moose watches him from the farther side of the Northern lake, or the big horn, goat, or bear stands in fancied security on the other side of the gulch.

AS A SQUIRREL RIFLE it is unsurpassed, since it may be loaded with a pointed metal cased bullet of 100 grains weight, with 10 grains sharpshooter powder, and squirrel, rabbit, grouse, duck, geese or other game may be shot through the body without mutilation, owing to the low velocity; with this reduced charge it is just as accurate as the .22 long rifle cartridge or others usually used for this purpose. Yet by changing cartridges it is at once ready for moose or bear.

AS A TARGET RIFLE the .256 NEWTON is in its element. Of unsurpassed accuracy, of the lowest trajectory, of the highest velocity and consequently least time of flight; with a bullet sufficiently long to enable it to retain its velocity well, and "buck the wind" successfully, yet with a very light recoil, making flinching unknown and shooting a pleasure; and with a velocity at 1500 yards almost equal to that of the Springfield at 1000 yards, we have the best long range target rifle ever offered the marksman.

ITS RECOIL is much like that of the .30-30. The same principles which make the .22 Savage High Power seem like a .25-20 in recoil are here and have the same effect. Hence it is an ideal rifle for all purposes.

For those sportsmen who desire an efficient rifle for the biggest game in America, of the flattest trajectory and greatest accuracy, yet of light weight and light recoil; we unhesitatingly recommend the .256 caliber Newton High Power, as it is ample to cope with the heaviest game and has not the more vigorous recoil of the Springfield and Ross .280.

A number of these rifles, specially made, have been in use for the past two years with the best results.

In Outer's Book for April, 1914, Mr. Edward C. Crossman, a sportsman who has had wide experience with nearly every sporting rifle or cartridge made, summed up the situation in the following language:

"The ideal American game cartridge is not yet with us. I should con-
"sider this a rimless case, slightly smaller than the Springfield, or the same
"size, loaded with pyro powder and **120 grain .25 caliber bullet** with copper
"tube, driven at **3,000 foot seconds.** This would give nearly 2,400 foot
"pounds, or the energy of the New Springfield, would give the lacerating and
"**shocking effect** of the .280 and .22 Hi Power, would afford enough weight
"to go through heavy bones, would give a trajectory over 300 yards as flat
"as the present .30-30 over 200 yards, and would inflict but little recoil."

This rifle and cartridge exceeds Mr. Crossman's specifications in every respect, having three grains greater bullet weight, 100 foot seconds more velocity and nearly 250 foot pounds more energy.

As to accuracy of these rifles Mr. V. J. Emerick, Medford, Oregon, writes:

"I shot the rifle on the range yesterday but it started to rain and I had
"to quit. I fired five shots with rest at 100 yards, and the shots could all
"be covered by a fifty cent piece nicely. Then I shot three at 200 yards
"with rest; they grouped two of them in practically the same hole and the
"third within two inches of the other two, so it shows that the gun was
"shooting with extreme accuracy."

In a later letter he writes:

"I shot five shells this morning. They made a three inch group at 200
"yards with rest. They were all well within the three inch circle."

Later he writes:

"I have just been out hunting; had a chance to try the gun out; it
"surely does paralyze a buck. We got the limit. I used the rifle for shoot-
"ing grey squirrels. Loaded with the 52 grain Ideal sharp pointed lead

"bullet with 5 grains Dupont No. 1 smokeless powder I can put a ball "through a squirrel's head any place that I can see it, and we have some "tall trees in Oregon. I use same sights as for full loads. It makes the "slickest squirrel rifle I have ever used yet. I did not score a miss on this "trip. There are lots of grey squirrels here in the same woods as the deer, "so with the two shells and the same rifle one is fixed for both, also grouse "and mountain quail. This bullet does not mangle either of these birds."

Mr. W. S. Harmon, of Meeker, Colorado, writes:

"I like the rifle fine. Have killed two coyotes with it. It has got any-"thing in the gun line I have ever used skinned a mile when it comes to "shocking and killing power. I shot one of the coyotes about 350 yards and "he fell so quick I couldn't tell what became of him, but I could tell I hit "him by the way it sounded."

Mr. H. Metzger, of Boundary, Washington, writes:

"The rifle arrived just before our Christmas turkey shoot. We shoot "at 300 yards for turkeys and quarters of beef. I won three turkeys and "a whole beef with it. It shoots splendidly."

The .280 Newton Cartridge

Uses a 145 grain bullet at 3050 f. s. velocity and with a muzzle energy of 3000 foot pounds. The efficiency of this cartridge is familiar to many, as it is the same bullet and has the same velocity as the Ross .280 cartridge, now quite well known. The velocities claimed for the Ross vary considerably, but we accept the figures of the company which makes the cartridges and which are as above. Be this as it may, the velocities of the two cartridges are the same, the only difference between them being in the shape of the shell, we using a shorter shell, (not so sharply tapered, since we have ample extracting power in our rifles) and of the same amount of powder room, and use the same charge of powder and bullet. This cartridge is a splendid one for those who wish more power than is developed by the .256 NEWTON, yet not as much as possessed by the larger sizes. This cartridge will not be ready until the spring of 1916 owing to the congestion of business with the cartridge companies.

The .30 Newton Cartridge

Has been used to some extent during the past four years in specially built rifles made by Mr. Adolph, at whose request Mr. Newton designed it, and known as the "Adolph Express." The Adolph Express used a foreign shell necked down and required Berdan primers, which must be imported. We have provided it with a new shell, specially designed for it, using American made primers, and it is as easily reloaded as any other American cartridge. The shell has been greatly strengthened and improved, and in its present form it is a triumph of American cartridge making.

This cartridge is regularly loaded with a 170 grain spitzer expanding bullet, giving a muzzle velocity of 3000 f. s. and an energy of 3400 foot pounds. Its sharp point and good length cause it to retain its velocity well

during flight, giving great effectiveness at the longer ranges. Compare its energy at the different distances with that of the .405, as shown by the table.

This cartridge loaded with the 150 grain service bullet of the Springfield cartridge gives the tremendous velocity of 3208 f. s., but of course loses it somewhat more rapidly than does the heavier bullet. It will use in addition to the spitzer expanding bullets which we make for it, the entire series of .30 caliber bullets, of whatever weight, from the 150 grain service bullet to the 225 grain spitzer used in the English match rifles. This includes weights of 170 grain, 180 grain and 190 grain in spitzer match bullets, and 170 grain, 185 grain, 190 grain and 220 grain blunt point bullets, either soft point of full metal patched. With the .225 grain match bullet it gives 2600 f. s. velocity.

This cartridge is the first choice of the majority of those who wish something more powerful than the .256 NEWTON, and is unexcelled for the heaviest American game, being ideal for moose and the larger bear.

THE RECOIL of this cartridge is not noticeably heavier than that of the Springfield rifle using the same weight of bullet. In Outer's Book for July, 1913, Lieut. Whelen says of this cartridge: "The Adolph Express (.30 Newton) should prove a most excellent rifle for Western shooting where long shots often have to be taken. The velocity and energy, particularly of the 172 grain load are so well retained at long range that it is doubtful if any other rifle now made can excel at ranges over 300 yards in game shooting. The recoil is so light that good long range practice can be done with it even by a light man."

This cartridge, using a shell of greater diameter than those heretofore in use, the magazine will hold but three, giving, with the one in the barrel, four shots at the command of the shooter without recharging. We deem thus limiting the number of shots in the magazine to three better than increasing the size of the magazine unduly, thus impairing the appearance and handling of the weapon.

The .33 Newton Cartridge

Is decidedly more powerful than the .30 caliber size. It uses a 200 grain spitzer bullet at 3000 f. s. velocity and with an energy of 4000 foot pounds. This cartridge was designed to meet the wants of those who desire something more powerful than the other fellow; something which will handle the heaviest game without the slightest hitch in the proceedings, provided a bullet be placed fairly within the body but a vital spot be not struck. There are many sportsmen who consider killing the game good and plenty with the first shot better than taking chances. Personally we consider the .30 NEWTON cartridge ample for anything found in America, but we are not gifted with all knowledge and respect the opinions of those who may differ from us. For their benefit we have produced this cartridge.

This cartridge is as accurate as any, has good carrying power, as will be seen from the table, and is a practical and efficient weapon for those who, like The Kirkpatrick, wish to "make sure."

The recoil when used in a 7½ pound rifle is somewhat greater than that of the .30 caliber, but is not at all disagreeable, being less than that of a 12 gauge shotgun with trap load.

The .35 Newton Cartridge

Is the most powerful which we manufacture. It uses a 250 grain bullet at 2975 f. s. velocity and develops an energy of 4925 foot pounds—just 19 foot pounds less than the .450 cordite English elephant gun used by African sportsmen. Its high velocity—almost 200 f. s. greater than the .22 Savage high power—gives it the terrific killing power of that little demon, combined with "the punch" of the great elephant guns. For those sportsmen who wish a rifle for an African trip this is just the thing, while many prefer it for our largest American game, since with it one shot, anywhere near well placed, is sufficient.

The English elephant rifle weighs twelve pounds, must be carried by a gunbearer, and almost kicks the shoulder off when fired. Most sportsmen who have hunted in Africa bear eloquent testimony to their kicking qualities. The .35 Newton, when used in a 7½ pound Mauser, shoots fairly pleasantly, the recoil not being noticeably above that of a 12 gauge shotgun, with trap load, fired at a stationary target, and good target work at 200 yards offhand can be done with it. Here we have a rifle equal to the elephant gun in energy, far superior in killing power, due to its higher velocity, light enough to be carried by the sportsman himself, and free from disagreeable recoil. Its accuracy is of the best and for those who wish the best they can get it is just what they want.

AS TO ALL THE NEWTON CARTRIDGES.

IN ACCURACY they are unsurpassed. Their foremost quality is velocity accompanied by a good bullet weight. The weights of the bullets used in all the cartridges are, in proportion to their calibers, the same as the Ross .280 and the Springfield .30 caliber 170 grain bullets. These cartridges lead the world in accuracy. The Ross is the equal of anything and the Springfield its only rival. Therefore the velocity developed is shown not to interfere with the utmost limits of accuracy. In fact the velocity adds to the accuracy in shortening the time of exposure to the wind and to the action of gravity, and steadies the flight.

Correspondents frequently inquire as to how small a group our rifles will make at some given distance. Obviously this depends upon several factors aside from the accuracy of the barrel and cartridge. Not the least of these is the skill of the rifleman. However, in view of the fact that these figures are desired for the purpose of comparison and the fact that the New Springfield rifle is the most accurate rifle heretofore made, we sought a comparison of the two. We took at random from a box containing 100, one of our .256 Newton barrels adapted to the Springfield rifle, and shipped it to the Frankford Arsenal at Philadelphia for test by the officers of the Ordnance Department. There it was mounted in a Springfield action and

tested from machine rest at 500 yards. The following figures give the results obtained on this test, together with similar figures for the Springfield rifle:

	Mean vertical deviation.	Mean horizontal deviation.	Mean radius of deviation.
.256 NEWTON, 123 gr. bullet	3.29 inch	3.87 inch	5.30 inch
.256 NEWTON, 139 gr. bullet	2.23 inch	2.08 inch	3.58 inch
Springfield, 150 gr. bullet	3.00 inch	3.00 inch	4.10 inch

The 123 grain bullet was a mushroom spitzer with a Newton patent protected point. The 139 grain bullet was a full metal case spitzer. Naturally the full metal case bullet was more accurate as they are always more accurate than expanding bullets as the fact that the jacket reaches clear to the point makes the bullet more rigid and resists deformation under pressure of the powder gases better. The tendency of this pressure is to make the base slightly oblique, which impairs accuracy. The figures for the Springfield were taken from the 1911 edition of the Army Hand Book. With a view to bringing them down to date we wrote the Ordnance Department for the latest records and were given the mean radius of tests made in July, August and September, 1915, as 3.876 inch, 3.889 inch and 4.048 inch respectively. The vertical and horizontal deviations were not given. These figures show a light improvement over those of 1911 but are still less accurate than our metal case bullet.

According to these results, as reported by the officers of our Ordnance Department, our rifles may be said to be about 10 per cent more accurate than the Springfield.

THE RECOIL is phenomenally light. The recoil of the .256 NEWTON, with its energy decidedly greater than the Springfield, is about that of the 30-30 with normal load. The .30 NEWTON with its energy decidedly greater than the .405 has a recoil much like the Springfield. The .35 NEWTON has the power of the elephant gun and a recoil like the .405. The question arises as to how we do it.

We have merely, as above stated, applied the principles governing the .22 Savage high power to the larger calibers and adapted our bullets to meet the conditions. We obtain our energy from a lighter bullet, of small caliber, at high velocity, instead of from a heavier bullet, of larger caliber, at lower velocity. The reduction in bullet length helps materially, while the reduction of the size of the bore, giving less area of cross section from which the gases escape against the atmosphere, helps more. The bore of the rifle, expelling its bullet, is like the piston of a gas engine: The larger the bore of the cylinder, the more power exerted by a given pressure of gas, and in case of the rifle, the greater the reaction, or kick. Also the greater velocity with which the bullet leaves the muzzle permits less resistance to the escaping gases, thus further reducing the reaction upon the rifle, or recoil.

AS TO METAL FOULING, we have no trouble from this source, since we use copper jackets only on our bullets. Cupronickel jackets contain nickel, which has a chemical affinity for steel. This affinity leads, when the two metals are brought into violent contact at high temperatures, to the nickel of the jackets sticking to the steel of the barrel. Therefore when copper jackets are used the fouling never builds up on the lands to interfere with accuracy.

AS TO POWDER USED. We use only pure nitrocellulose powder, the same as used in the Springfield army rifle and in the Ross .280 rifle. This burns comparatively cool and does not erode the barrel when firing rapidly as do the powders containing nitroglycerine. None of this series of cartridges use powder containing any nitroglycerine whatsoever.

AS TO BULLETS USED. We use for a game killing bullet the NEWTON PATENT EXPANDING POINT SPITZER, fully described later.

AS TO RELOADING these cartridges. They are all reloadable as easily as any other American cartridge. They are American made shells made by one of our largest American cartridge factories; the powder is made by the Dupont Company, and the primers are those in everyday use for American cartridges. The Marlin Company make Ideal loading tools for them and we keep them in stock.

AS TO PURCHASING CARTRIDGES. We have in stock the .256 and .30 caliber sizes at all times. We can furnish the .33 and .35 calibers on short notice. The .22 calibers are not yet ready, but will be as soon as the rifles are ready. The shells and bullet jackets are made for us by the Union Metallic Cartridge Company, and we make the bullets and load the cartridges. When the rush of war orders is over the large factories will make the complete cartridges.

THE BALLISTIC QUALITIES of these cartridges are shown in the accompanying table. This table shows the velocity, energy, trajectory and time flight, at the different ranges, of the different bullets; and, for purposes of comparison, the similar qualities of several of our most popular sporting cartridges. Compare the energy of these cartridges with others, not only at the muzzle but at the different ranges, and you will note how much more rapidly the others "fade away" as they go down the range—how the "bone crusher" at the muzzle may become comparatively puny at 200 to 300 yards. Yet this is where the game stands, and this is where you want your energy. Make your comparisons at 300 yards and you will see exactly what you are getting.

THE NEW PROGRESSIVE BURNING POWDER, DUPONT MILITARY NO. 15, can be used in these cartridges and will give as greatly improved velocity as in the Springfield cartridge. We have not yet had the new loads chronographed, but in all probability we will, in the near future, be able to load with heavier bullets than now used and at the same velocities now developed. We have a fine 140 grain spitzer bullet for the .256 Newton already designed and ready to be made as soon as the factories can make the copper jackets. This gives a muzzle velocity of 3000 foot seconds.

The following table shows the velocity, energy, trajectory and time of flight of the different Newton cartridges.

Also for the purpose of comparison similar figures for the .22 Savage High Power, .250 Savage, model 1906 Springfield, Ross .280, .405 Winchester and .450 English Cordite elephant gun, they being the principal cartridges at all in the class of those here described now regularly on the market.

A comparison will show the relative merits of these different cartridges.

Range.	Bullet.	.22 Sav. H.P. 68 gr. C-.26	.22 Newton 90 gr. C-.464	.250 Savage 87 gr. C-.276	.256 Newton 123 gr. C-.464	.256 Newton 140 gr. C-.548	.280 Ross 145 gr. C-.457	.30 U. S. G. 150 gr. C-.389	.30 Newton 150 gr. C-.389	.30 Newton 172 gr. C-.491	.405-300 W. C. F. C-.258	.450 Cordite 480 gr. C-.384	.33 Newton 200 gr. C-.395	.35 Newton 250 gr. C-.40
Muzzle	Velocity, ft. sec...	2800	3103	3000	3103	3000	3050	2700	3208	3000	2204	2150	3000	2975
	Energy, ft. lbs....	1190	1921	1740	2632	2800	3002	2445	3445	3440	3236	4944	4000	4925
100 Yds.	Velocity, ft. sec...	2453	2891	2657	2891	2824	2837	2465	2950	2804	1897	1944	2758	2737
	Energy, ft. lbs....	911	1660	1375	2288	2492	2710	2034	2910	3010	2399	4032	3400	4175
	Trajectory, ft.....	.052	.04	.045	.04	.042	.042	.055	.038	.043	.086	.086	.043	.044
	Time Flt., sec.....	.114	.100	.106	.100	.103	.102	.116	.098	.104	.147	.147	.104	.105
200 Yds.	Velocity, ft. sec...	2131	2689	2340	2689	2655	2635	2244	2707	2618	1623	1752	2530	2512
	Energy, ft. lbs....	687	1445	1061	1980	2198	2247	1686	2445	2631	1740	3264	2852	3500
	Trajectory, ft.....	.242	.173	.204	.173	.181	.180	.241	.166	.185	.404	.38	.188	.192
	Time Flt., sec.....	.246	.208	.226	.208	.213	.212	.243	.204	.215	.318	.31	.217	.219
300 Yds.	Velocity, ft. sec...	1833	2496	2042	2496	2492	2441	2039	2477	2439	1384	1576	2312	2297
	Energy, ft. lbs....	510	1247	783	1709	1932	1929	1392	2040	2287	1290	2640	2382	2950
	Trajectory, ft.....	.666	.417	.530	.417	.435	.436	.596	.409	.44	1.07	.96	.465	.473
	Time Flt., sec.....	.408	.323	.364	.323	.320	.330	.384	.320	.333	.518	.49	.341	.344
500 Yds.	Velocity, ft. sec...	1341	2133	1526	2133	2183	2076	1668	2049	2100	1078	1280	1907	1896
	Energy, ft. lbs....	272	907	435	1242	1484	1392	932	1395	1685	780	1728	1628	2000
	Trajectory, ft.....	.246	1.35	1.98	1.35	1.37	1.42	2.04	1.37	1.44	4.16	3.31	1.56	1.59
	Time Flt., sec.....	.784	.583	.704	.583	.586	.597	.709	.586	.598	1.02	.91	.625	.632
1000 Yds.	Velocity, ft. sec...	869	1383	920	1383	1518	1337	1068	1223	1395	779	942	1166	1165
	Energy, ft. lbs....	114	341	165	513	714	580	382	495	739	390	960	600	750
	Trajectory, ft.....	20.1	8.53	17.6	8.53	7.95	9.00	14.5	9.73	8.76	28.7	21.53	10.9	11.0
	Time Flt., sec.....	2.24	1.46	2.10	1.46	1.41	1.50	1.86	1.56	1.48	2.68	2.32	1.65	1.66
1500 Yds.	Velocity, ft. sec...	641	1016	700	1016	1100	998	853	928	1032	565	768	907	910
	Energy, ft. lbs....	62	207	95	283	378	319	244	285	408	210	624	366	450
	Trajectory, ft.....	71.8	30.5	60.8	30.47	26.8	32.0	52.8	35.6	30.5	97.6	66.58	38.9	38.9
	Time Flt., sec.....	4.26	2.76	3.90	2.76	2.59	2.83	3.45	2.98	2.76	4.94	4.08	3.12	3.12

"Newton Wire Point" Bullets

The obstacle to applying the advantages of the spitzer form of bullet to sporting cartridges has been in obtaining a point which will be a true spitzer so long as the bullet is in flight, minimizing air resistance and maintaining its velocity well, yet will expand properly and inflict a deadly wound when the game is struck.

The retention of the form of the bullet until it strikes involves two problems, viz., first, preserving the point during transportation, in loading, and in throwing the bullet from the magazine into the chamber, and second, preventing the exposed soft point from upsetting when the rifle is fired.

If much lead is exposed the inertia of the forward portion of the bullet resisting the forward impulse of the rear portion when the powder is ignited, causes the base portion of the exposed lead to flatten, and the bullet, which was a true spitzer when the trigger was pulled, has a comparatively flat point with a little pointed tip in the center, when the bullet leaves the barrel. With ordinary soft lead cores we can have but about 3-16 inch of lead exposed without this upsetting taking place. In some bullets this is ample to insure proper mushrooming, but in others it is insufficient and we wish to expose more lead. It all depends upon the velocity of the bullet when it strikes, and the texture of the subject struck.

In both forms we wish to prevent the point from being accidentally battered before firing.

It is obvious that the protection furnished must be such as will not interfere with the expansion of the bullet on impact.

This problem is not difficult when the bullet strikes a bone or sufficient solid flesh, since the hollow copper tubes and weakened jackets, of which there are many on the market, or even the solder tips of the English bullets, will do, but when the bullet strikes the softer parts we want it to expand properly, as well.

None of the above devices will work properly here, since there is not enough friction between the copper of the jacket, however weakened it may be, and the tissues struck, to prevent a clean puncture. When soft lead is exposed directly to the flesh it clings upon impact, tearing the lead back and mushrooming the bullet, and the flesh itself is thrown forward, tearing the adjoining tissues, resulting in a wound such as the .22 Savage high power bullet has made familiar to all.

To meet this condition Mr. Newton has designed and patented the Newton Patent Protected Point Spitzer bullet the principle of which is readily seen from the cuts.

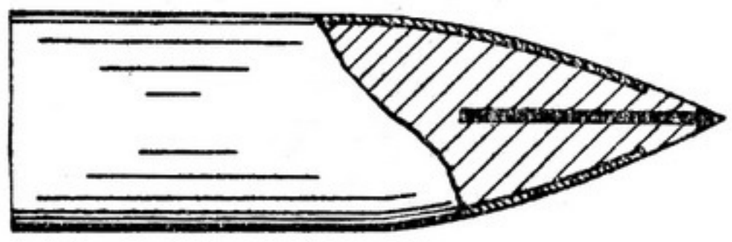


FIG. 1.

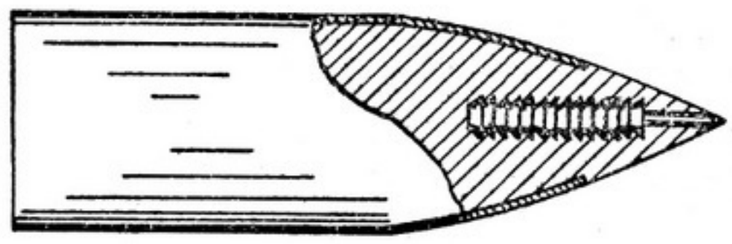


FIG. 2

PATENTED MAY 12, 1914

Fig. 1 consists of a jacket brought well toward the bullet point, by which the upsettage on firing is prevented, with a copper wire inserted in the center of the point. This copper wire receives and withstands all the accidental batterings which the bullet receives in handling, and stiffens the point against bending, yet when it strikes the game this wire penetrates like a needle, thus letting the flesh strip back the lead point and mushroom the bullet without difficulty. The wire itself, as soon as the bullet is materially mushroomed, bends over and adds to the general destruction.

Fig. 2 is another central support, used when more lead is desired exposed. The central pin protects the point against battering or bending in handling, same as does the copper wire in Fig. 1, and permits mushrooming in the same manner. Back of this point the shoulders on the central supporting pin support the forward portions of the exposed lead, thus relieving the rear portions of this resistance and preventing the upsetting of the point when the cartridge is fired. The bullet continues a true spitzer shape until it strikes. When it strikes the lead of the point peels back from the wire and likewise peels off the shoulders upon the pin, so the full mushrooming effect is obtained.

Lieut. Townsend Whelen, one of the greatest American authorities on rifle shooting and big game hunting, writing in Outer's Book for February, 1915, page 168, says of these bullets:

"My own trial of this powder was made with the new Newton patent protected point bullet weighing 170 grains. This bullet is unique in that it is jacketed with copper instead of the heretofore usual cupronickel. I believe that it will prove to be the best large game bullet that has been brought out for the Springfield. Ten shots at 200 yards with my Springfield rifle, having an anti-corro steel barrel and Lyman rear sight on the cocking piece, gave a group measuring 5.5 inches. Ten shots at 100 yards with my military Springfield equipped with Winchester telescope sight gave a group measuring 2.6 inches. This is as good accuracy as can be obtained with any ammunition except the very best hand loaded match cartridges. As will be seen it is enough to satisfy the most exacting hunter."

In a letter Lieut. Whelen writes:

"Those 170 grain protected point copper jacketed spitzer .30 caliber bullets are so good that I cannot do without them. They have become the standard .30 caliber hunting bullets with me now. I must have 500 of them right away. I want to run through some experiments with them before I shut up shop here ten days from now and I want a supply to take to Panama with me for hunting purposes."

The New Heat Insulated Bullets

When the speed of rifle bullets was increased from about 1300 feet per second to 2000 feet per second it required the almost revolutionary change from plain lead to the metal patch in order to adapt the bullet to the new requirements. This was an increase of but 700 f. s. When the velocity was increased from 2000 f. s. to 3100 f. s. the increase was over one and one half times as much as was the first speeding up. Therefore it would not be strange if it should be found that the new velocities required some modifications of the bullet to give satisfactory results.

Users of high velocity rifles such as the Springfield, model 1906, the Ross .280 and the .22 Savage high power, have at times encountered trouble with their bullets. Sometimes they gave unaccountable shots, missing the target. Sometimes they most signally failed to penetrate. Sometimes, when the barrel was very hot, they even went to pieces in the air, showing up only as a bluish vapor about fifty feet from the muzzle, while the jacket struck the ground 75 to 100 yards away. This trouble was noted less with the Springfield and the Ross than with the Savage. The Springfield was seldom used with soft point bullets at the full velocity of the 1906 charge, and the Ross had a copper tube forming a cork in the front end of the bullet.

With this data before him Mr. Newton set himself the task of ascertaining the cause and removing the trouble.

After many theories had been run down and found erroneous he attacked the problem upon the assumption that the intense heat generated by the friction of the bullet jacket against the barrel was sufficient to melt that portion of the core of the bullet opposite the bearing of the jacket upon the barrel; and, as the barrel grew hotter and hotter through rapid firing this melting proceeded farther and farther towards the point of the bullet until in some cases the bullet core was completely melted. In case of the metal cased solid point bullet the melted lead could not escape, as it was heavier than the jacket, in specific gravity, hence the jacket held it together until it had an opportunity to cool off during flight, or until it penetrated. The centrifugal force of the rotation, together with the forward impulse of the particles of lead, kept the melted core fairly well in place. In the Ross .280 copper tube bullet the copper tube served as a cork and kept the melted lead in the jacket during flight, but when completely melted permitting it to flow into the forward portion of the jacket, with somewhat adverse results as to accuracy and occasionally as to penetration. With the .22 Savage high power, when the lead was melted clear to the point of the soft point bullet the fluid lead merely flew out in front, showing as the bluish vapor about fifty feet from the muzzle, while the empty jacket soon dropped to the ground.

Examination of the writings of experts showed that not only had the English riflemen met and recognized this melting of the bullet cores occasionally, even with the .303 cartridge at 2000 f. s. velocity, but Dr. Mann

had had the same experience with the old Krag cartridge. If a velocity of 2000 feet per second develops sufficient friction to cause the bullet cores to melt, what will a velocity of 3100 f. s. do? The demonstration was easy.

By drilling a small hole through the jacket about 1-8 inch in front of the base and firing it through white cardboard at a range of twenty feet it was easily seen where the melted lead had been thrown out the hole and made a large smear on the cardboard. As a remedy for this condition Mr. Newton tried wrapping the bullet core in a patch of thin paper before inserting it in the jacket and swedging the bullet into shape. This paper acted as an insulation against the heat, preventing its being transmitted to the bullet core and thus effectively stopped the melting of the cores, since experiment showed that bullets with this paper insulation, when drilled through the side as above described, gave no indication of melted lead having been thrown out the hole when fired at short range through white cardboard. As another test, the rifle was fired rapidly until so heated that the unprotected bullet cores melted completely, showing up as a bluish vapor, and the jackets dropped to the ground. Ten more shots were then fired as rapidly as possible, all of which bullets melted, and which had the effect of heating the barrel to a still higher degree. Some of the paper lined bullets were then fired and went absolutely true.

As a result all the NEWTON HIGH POWER bullets are now made with this paper insulation, and a patent upon the process is pending.

This heat insulation, in connection with our patent wire protected point produces what we claim to be the best sporting bullets made in the world to-day. They penetrate well and do not fly in pieces upon striking, owing to the cores being unmelted. When protected by this device the .256 Newton expanding bullet gives a penetration of six inches in seasoned rock maple.

Reed Square Based Hand-Made Bullets

These bullets in different sizes have been before the American sportsmen for the past year and have met with an enthusiastic reception.

They are hand-made, by a new system which insures a base absolutely square, and hence a maximum of accuracy.

They are made as a soft point spitzer, either with or without the Newton Patent Protected Point.

Inasmuch as most types are made from factory bullets, as a basis, it is obvious that we cannot compete in prices with the factory product. Their quality is their recommendation.

The sizes and prices are as follows:

.22 Savage High Power, soft point, 70 grains	$1.00 per 100
.25 Caliber, 86 grains, soft point	1.00 per 100
.25 Caliber, 117 grains, soft point	1.50 per 100
.256 Caliber, 123 grains, soft point, wire protected	1.35 per 100
.30 Caliber, 170 gr., soft point, wire protected	1.50 per 100
8mm Caliber, 170 grains, soft point, wire protected	2.00 per 100
.35 Caliber, 250 grains, soft point, wire protected	2.00 per 100

All prices F. O. B. Buffalo, N. Y.

Terms—Cash with order. Address,

NEWTON ARMS COMPANY, Inc.,
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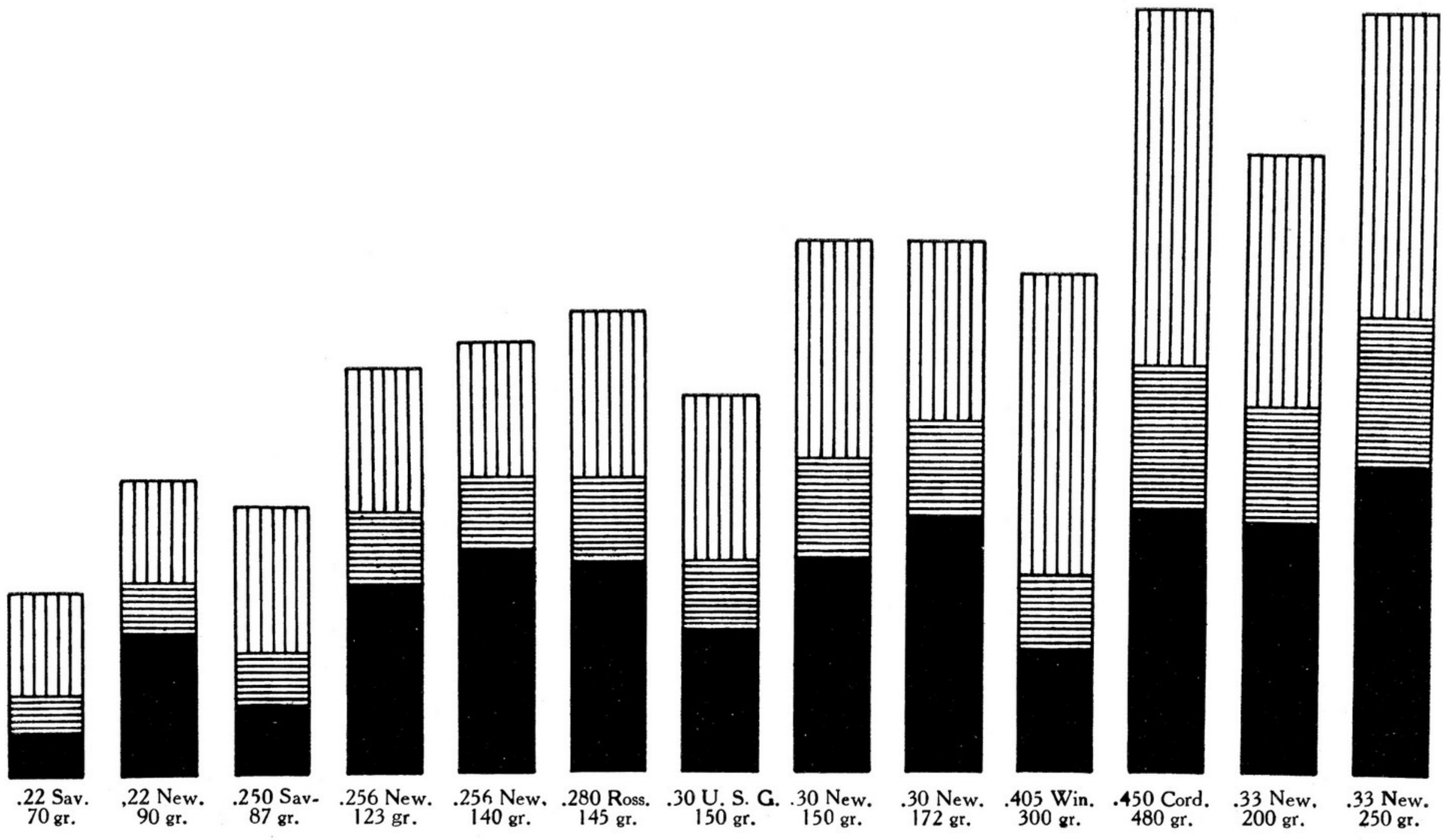
Buffalo, New York.

Press of
FIX & MILLER
Batavia, N. Y.



THE above chart shows the comparative energies of the different cartridges shown in our ballistic table. The total height of each figure represents the muzzle energy of each cartridge. The height of the upper horizontal lines represents the energy of each cartridge at 300 yards. The height of the black portion shows the energy of the cartridge at 500 yards. The first line below the figure is the name of the cartridge, and the second line the weight of the bullet.

34
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BACK OF PAGE 33

EIGHTH EDITION

Page 31

Reed Special Bullets

Page 33

Newton Heat Insulated Bullets

Page 37

Newton Patent Spitzer Bullets

All Calibers, Pages 17-32

Newton High Power Cartridges

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